

MODULAR AND RECONFIGURABLE RAPID BATTERY CHARGER

ABSTRACT OF THE DISCLOSURE

The battery charger is modular and reconfigurable. It includes charging modular power stages that are configured to receive an alternating current (AC) input and provide a direct current (DC) output for charging a battery. These modular power stages include an inverter coupled to a rectifier circuit that outputs a battery charging current. The modular power stages can also each include a current mode controller coupled to the output of the rectifier circuit and configured to provide a current control signal for the modular power stage, a voltage mode controller coupled to the output of the rectifier circuit and configured to provide a voltage control signal for the modular power stage, and a droop sharing control and configured to ensure current sharing between a plurality of modular power stages under constant voltage operation. A system controller is configured to interface with the modular power stages.